

Q. 1. Find the prime factorization of 1240 using three different methods.

(i) Division Method:

$$\begin{array}{r} 2 \overline{) 1240} \\ \underline{2 \phantom{00} 620} \\ 2 \phantom{00} 310 \\ \underline{2 \phantom{00} 155} \\ 31 \end{array}$$

Prime factorization of 1240 is  $1240 = 2 \times 2 \times 2 \times 5 \times 31$   
 $= 2^3 \cdot 5^1 \cdot 31^1$

The total of factor is  $= (2+1) (1+1) (1+1)$   
 $= 12$

(ii) Multiplication Method:

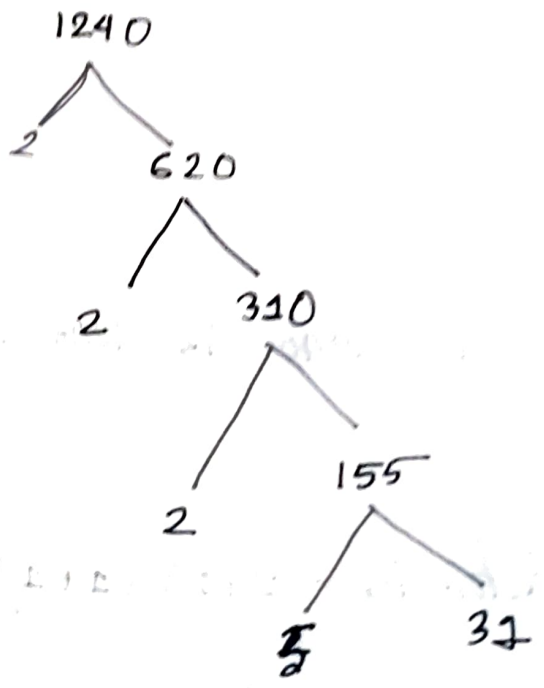
$$1240 = 2 \times 620 = 2 \times 2 \times 310$$

$$= 2^2 \times 2 \times 155$$

$$= 2^3 \times 5 \times 31$$

2. Finding

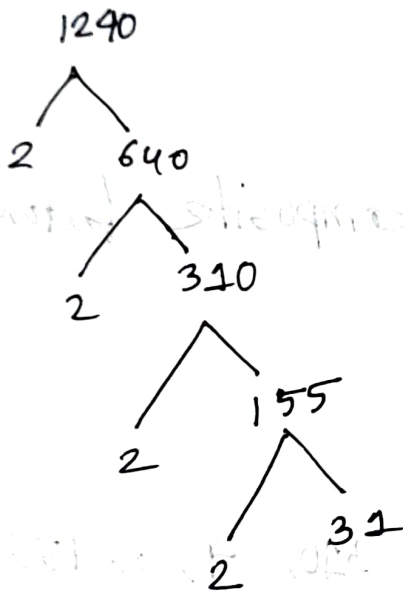
ii) tree diagram:



Therefore, the prime factorization of 1240 is  $= 2^3 \cdot 5 \cdot 31$

2. Finding the all factors of 1240 using tree diagram:

i) tree diagram:



Therefore, the prime factorization of 1240 is  $= 2^3 \cdot 5 \cdot 31$

So, the total number of factors of 1240 is

$$= 2^3 \cdot 5 \cdot 31$$

$$= (3+1) \cdot (1+1) \cdot (1+1)$$

$$= 4 \cdot 2 \cdot 2$$

$$= 16$$

3. Finding the all prime factors of 1240

$$1240 = 2 \times 620 = 2 \times 2 \times 310 = 2^2 \times 2 \times 155 = 2^3 \times 5 \times 31$$

therefore, the prime factorization of 1240 is  $= 2^3 \cdot 5 \cdot 31$

4. Finding all the composite factors of 1240

composite factors:

$$1240 = 2, 620, 310, 4, 8, 155, 5, 31$$

$$= 2, 4, 8, 5, 31, 155, 310, 620$$